# PHASE II ENVIRONMENTAL SITE ASSESSMENT

Former Delfasco Forge Facility 114 Northeast 28<sup>th</sup> Street Grand Prairie, Texas 75050

EnSafe Project Number 7540-005

Prepared for:

Delfasco Inc. 15 Bellecor Drive Industrial Park Place New Castle, Delaware 19720

Prepared by:

EnSafe Inc. 4545 Fuller Drive Irving, Texas, 75038 (972) 791-3222

October 7, 2002

9823326

# **Table of Contents**

	EXEC	ECUTIVE SUMMARYıı									
	1.0	INTR	ODUCTION1								
	2.0	SITE	AND VICINITY CHARACTERISTICS2								
		2.1	Location and Setting2								
		2.2	Investigation Area2								
		2.3	Geologic and Topographic Information								
-	3.0	SUBS	SURFACE INVESTIGATION5								
		3.1	Field Investigation Methods5								
			3.1.1 Soil Sampling5								
			3.1.2 Groundwater Sampling6								
		3 2	Laboratory Results6								
			3.2.1 Soil Samples								
			3.2.2 Groundwater Samples8								
		3.3	Sample Labeling Protocol								
	4.0	CONC	CLUSIONS AND RECOMMENDATIONS11								
	5.0	REFR	ENCES								
			List of Figures								
	Figure	1	Site Map 3								
			List of Tables								
	Table :	1	Soil Comple Desuite								
		-	Soil Sample Results								
	Table 2	2	Groundwater Sample Results								
			List of Appendices								
	Appen	dix A	Site Photographs								
	Appen		Soil Boring Logs								
	Appen		Laboratory Analytical Data								
	Lh h ~ v v.	~*** ~									

### **EXECUTIVE SUMMARY**

On behalf of Delfasco Inc., EnSafe Inc. has performed a Phase II Environmental Site Assessment (Phase II) at the former Delfasco Forge facility at 114 Northeast 28<sup>th</sup> Street, Grand Prairie (Dallas County), Texas. The Phase II was performed to determine if there had been an historical release to the subsurface from operations associated with the former forge or other sources. The assessment included soil and groundwater sampling at locations identified in the Phase II Environmental Site Assessment Proposal agreed upon September 3, 2002. Ed Mears of EnSafe conducted the investigation September 4<sup>th</sup> and 5<sup>th</sup>, 2002. Following is a summary the investigation activities.

- Four soil borings were advanced into the subsurface at the subject property using a truck mounted Geoprobe. Soil was collected continuously in 4-foot core samples from each boring. Each core was logged and field-screened for volatile organic compounds (VOCs) with a photo ionization detector (PID). Soil samples were selected for laboratory analysis based on the approved scope of work, visual observations and PID results.
- Soil boring B-1 was advanced to four feet below ground surface (bgs) north of the former machine shop in the vicinity of where raw metals were previously stored. One soil sample was collected at B-1 for metals in soil analysis. Boring B-2 was advanced to 20 feet bgs in the former forge shop, near the largest of the three former pits. One soil sample was collected at B-2 for laboratory VOCs and total petroleum hydrocarbons (TPH) analysis. Borings B-3 and B-4 were each advanced to 25.5 and 30 feet, respectively. Soil samples were collected from boring B-3 for laboratory VOCs and TPH analysis. Temporary groundwater monitoring wells were installed in borings B-3 and B-4. Groundwater samples were collected from each of the temporary wells for laboratory VOCs and TPH analysis.
- Soil samples were analyzed by EPA Method 8260 for VOCs, EPA Method 6010 for RCRA Metals, and Texas Method 1005 for TPH. The groundwater samples were analyzed by EPA Method 8260 for VOCs and Texas Method 1005 for TPH.

- Field observations along with soil and groundwater analytical results from the investigation indicate soil and groundwater has been impacted at the subject property. Chemicals of concern (COCs) in soil samples collected did not exceed Texas Commission on Environmental Quality (TCEQ) protective concentration limits (PCLs). COCs in groundwater samples collected did exceed PCLs for several VOCs and TPH. Laboratory analysis for metals in soil did not reveal any that exceed PCLs.
- EnSafe recommends Delfasco enter the subject property into the TCEQ voluntary cleanup program (VCP) to address groundwater contamination impact in accordance with the Texas Risk Reduction Program (TRRP).

EnSafe has completed a Phase II ESA of the Delfasco property at 114 Northeast 28<sup>th</sup> Street, Grand Prairie, Texas, to address concerns identified in the Phase I Environmental Site Assessment by Pinnacle Sciences, Inc. of Dallas, Texas. The Phase II has determined that soil and groundwater at the property has been impacted by several chemicals of concern, some of which were detected above applicable protective concentration limits. The following report discusses the Phase II activities, results and recommendations in more detail.



### 1.0 INTRODUCTION

EnSafe Inc. was retained by Delfasco Inc. to perform a Phase II Environmental Site Assessment (Phase II) at the former Delfasco facility at 114 Northeast 28<sup>th</sup> Street, Grand Prairie (Dallas County), Texas. The Phase II was performed to determine if there had been an historical release to the subsurface from operations associated with the former forge or other sources. This Phase II included soil and groundwater sampling at locations identified in the Phase II Environmental Site Assessment Proposal Ed Mears of EnSafe conducted the investigation September 4-5, 2002. Following is a summary the investigation activities. EnSafe's proposal to conduct the Phase II included a work plan, which was amended and finalized by Delfasco and EnSafe prior to the Phase II activities.

# The Phase II activities included:

- Mobilizing to the site with a direct-push technology (DPT) soil probing unit.
- Advancing four DPT soil borings to varying depths and collecting three soil samples.
- Installing temporary groundwater monitoring wells in two of the four DPT borings to collect two groundwater samples.
- Preserving, packaging and shipping soil and groundwater samples for laboratory analysis. This report presents findings and conclusions from the scope of work outlined above. Photographs illustrating site conditions and investigation activities are provided in Appendix A.



## 2.0 SITE AND VICINITY CHARACTERISTICS

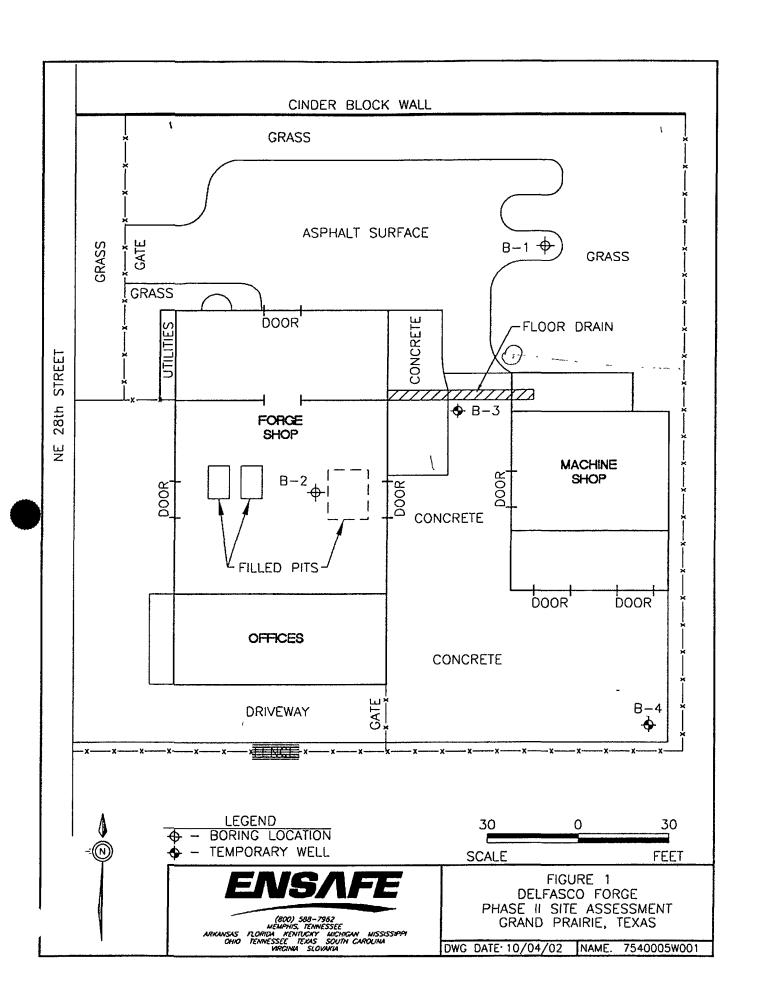
# 2.1 Location and Setting

The Delfasco facility occupies approximately one-half acre of land on the east side of Northeast 28<sup>th</sup> Street, Grand Prairie (Dallas County), Texas. According to the Pinnacle Phase I ESA report, the property was a metal works facility from the 1950s through the 1990s. The Phase I listed Land-Air, Inc. as the occupant from 1967 to about 1976 (reportedly a machine manufacturer). The subject property was occupied by Delfasco from 1981 to 1997 and is now vacant. Delfasco Forge performed steel and iron forge and machining operations at the facility. The property has an office building adjacent to the forge shop and a separate machine shop building (Figure 1). There are currently no above-ground or under-ground storage tanks at the property. The property is in an industrial, commercial and residential area bounded on the north by residential properties to the east by residential and automotive repair shops, on the south by a vacant lot, on the west by 28<sup>th</sup> Street then Dal-Worth Fabrication, a steel plate and tank manufacturer

# 2.2 Investigation Area

Four areas of concern were addressed for this investigation. The first area of concern is located north of the machine shop where metals had been stored outside and may have impacted the soils. The second area of concern is the shallow soils and groundwater at the forge building. Stains on the floors indicated a release to the subsurface may have occurred in the past. The third area of concern is also shallow soil and groundwater located between the machine shop and forge shop, along a storm water drain where surface spills or releases may have accumulated. The fourth area of concern is the shallow groundwater near the southeast (down-gradient) corner of the property where: a petroleum storage tank was located above ground; and where chemical releases across the property that impact groundwater might migrate.

If a release to the subsurface occurred at the first three areas of concern, the contamination would be detected in the shallow soils. A more significant release would be present in the first occurrence of groundwater.





# 2.3 Geologic and Topographic Information

The generally flat site slopes gently southeast, toward Mountain Creek Lake. The shallow soils in the site area consist of unconsolidated silt- sandy clay and clay deposits overlying the Eagle Ford Shale. The unconsolidated deposits are about 25 to 30 feet thick. The Shale thickness varies between 50 and 100 feet.

Information from this Phase II indicates that the site geology consists predominantly of dark-brown silty clay overlying the Eagle Ford Shale. Based on gauging data collected from the two temporary groundwater monitoring wells, groundwater at the site is between 20 and 22 feet below ground surface



# 3.0 SUBSURFACE INVESTIGATION

# 3.1 Field Investigation Methods

EnSafe completed preliminary tasks, such as visually assessing the investigation area and reviewing topographic and geologic maps and other data, to predict soil types and groundwater flow direction.

EnSafe retained the services of MagnaCore of Dallas to perform the direct push technology (DPT) soil borings and to install temporary groundwater monitoring wells. Mr. Ed Mears of EnSafe (Project Manager and Geologist) directed MagnaCore and the overall field investigation. Figure 1 illustrates the soil boring and temporary well locations.

## 3.1.1 Soil Sampling

On September 5, 2002, MagnaCore began DPT borings at the areas of concern as directed by EnSafe. Soil boring B-1 was advanced to four feet below ground surface (bgs) north of the former machine shop in the vicinity of where raw metals were previously stored. One soil sample was collected at B-1 for laboratory RCRA Metals analysis. Boring B-2 was advanced to 23 feet bgs in the former forge shop, near the largest of the three former pits. One soil sample was collected at B-2 from the 4- to 8-foot interval for laboratory VOCs and total petroleum hydrocarbons (TPH) analysis. Borings B-3 and B-4 were advanced to 25.5 and 30 feet respectively. A soil sample was collected from B-3 for laboratory VOCs and TPH analysis.

Soil was continuously sampled in 4-foot cores with a macro sampler, lined with dedicated plastic core sleeves, as each boring was advanced. The soil cores were visually observed and logged on field forms. Soil samples were then sealed in plastic bags. Each bagged sample was screened with a photo ionization detector (PID) for volatile organic compounds and logged. Boring B-1 soil sample was selected based on the objective to evaluate the shallow soils for metals. No significant PID readings were observed at boring B-1. Samples from borings B-2 and B-3 were selected based upon highest PID readings observed above the encountered groundwater level.



Selected samples were placed in laboratory provided sterile containers preserved on ice and shipped over-night to the laboratory for analysis. Soil samples were analyzed by EPA Method 8260 for VOCs, EPA Method 6010 for RCRA Metals, and Texas Method 1005 for TPH analysis. Soil samples were collected, preserved and analyzed following EPA SW-846 protocol.

All sampling equipment was decontaminated between boring locations using a soapy water wash and clean water rinse process. Personnel handling samples wore disposable, dedicated nitrile gloves to ensure sample integrity, prevent cross contamination and protect personnel from contaminant exposure.

# 3.1.2 Groundwater Sampling

Temporary groundwater monitoring wells were installed in borings B-3 and B-4. After installation of the temporary groundwater monitoring wells at B-3 and B-4, EnSafe extracted groundwater from the well using a peristaltic pump with dedicated Teflon tubing. Groundwater samples were collected in laboratory provided containers, preserved on ice and shipped over-night to the laboratory for VOCs and TPH analysis

Groundwater samples were collected, preserved, and analyzed following EPA SW-846 protocol. After groundwater samples were collected, the temporary wells were removed. The bore holes were abandoned and plugged with a bentonite grout and capped with 5-inches of cement to surface elevation.

# 3.2 Laboratory Results

### 3.2.1 Soil Samples

Soil samples for VOCs, TPH and metals analyses were analyzed by STL Savannah Laboratories in Savannah, Georgia. Laboratory reports for soil samples indicate that several COCs were not detected above TCEQ Tier 1 protective concentration limits (PCLs) for 0.5-acre residential and commercial/industrial properties. Table 1 provides a summary of soil sample results and

Table 1
Phase II Environmental Site Assessment
Delfasco Forge, Grand Prairie, Texas

# Soil Sample Results

Sample Location	B-1	B-2	B-3	TCEQ Tier 1	TCEQ Tier 1
Sample ID	DELSSB0104	DELSSB0208	DELSSB0304	Residential (0.5 Acre)	Commercial/Industrial (0.5 Acre)
Sample Depth (ft)	2-4	6-8	2-4	Protecive Concentration Limit	Protective Concentration Limit
VOCs					
cis-1, 2-Dichloroethene	NS	0 3 1 0	0 018 (J)	770	6,400
Trichloroethene	NS	0 200	0 025	150	310
Ethylbenzene	NS	<0 023	0 083	5,300	18,000
Xylenes (total)	NS	<0 047	0 310	6,400	9,300
Metals					
Arsenic	3 2	NS	NS	24	200
Barium	110	NS	NS	2,800	39,000
Cadmium	16	NS	NS	52	850
Chromium	14	NS	NS	3,000	95,000
Lead	23	NS	NS	500	1,600
Selenium	<0 36	NS	NS	310	6
Silver	<0 16	NS	NS	96	4,800
Mercury	<0 025	NS	NS	4	1,900
TPH (1005)					
C6 to C12	NS	<61	87	1,600	3,900
C12 to C28	NS	<61	640	2,300	12,000
C28 to C35	NS	<61	160	NA NA	NA
C6 to C35 (total)	NS	<61	890	NA	NA NA

Notes All values in ppm (mg/kg)

Values in Bold Print are at or above TCEQ Tier 1 C/I PCLs

Only VOC Parameters Detected are Listed Results in parenthesis () are non-detect NS - Not sampled for laboratory analysis



comparison to applicable PCLs. Analytical results, laboratory quality assurance/quality control documents and chain-of-custody forms are included in Appendix C.

Laboratory results show that metals in shallow soil at boring B-1 are significantly lower than TCEQ PCLs. It appears metals have not adversely impacted the shallow soil in the vicinity of B-1.

Laboratory results indicate TPH and VOCs are present in the shallow soils at the property, however, they are at significantly lower concentrations than the TCEQ PCLs for residential commercial/industrial properties.

# 3.2.2 Groundwater Samples

Groundwater samples were also analyzed by STL Savannah Laboratories. Laboratory reports for the Phase II groundwater samples show several COCs were detected above Tier 1 PCLs for 0.5-acre Residential and Commercial/Industrial properties. Table 2 provides a summary of groundwater sample results and comparison to applicable PCLs. Analytical results, laboratory quality assurance/quality control documents and chain-of-custody forms are included in Appendix C.

A trip blank was included for laboratory analysis of VOCs for quality assurance/quality control. The trip blank sample was provided by the laboratory with chain of custody. Trip blank results are listed on Table 2.

Laboratory results indicate a significant presence of VOCs and a minor TPH impact in groundwater at the boring B-3 location, with moderate impact of VOCs at boring B-4 location. Trichloroethylene (TCE) is present at a very high concentration (30,000 ppb) with known daughter products, vinyl chloride, 1,1-Dichloroethene (1,1-DCE), cis-1,2-Dichloroethene (c-1,2-DCE), 1,1,2-Trichloroethane (1,1,2-TCA). TCE is a daughter product of Tetrachloroethene (PCE) also known at Perchloroethene. Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) are common petroleum fuel hydrocarbons.

Table 2
Phase II Environmental Site Assessment
Delfasco Forge, Grand Prairie, Texas

# Groundwater Sample Results

				TCEQ Tier 1	TCEQ Tier 1
Sample Location	B-3	B-4	Trip Blank	Residential	Commercial/Industrial
Sample ID	DELGSB0301	DELGSB0401	DELT090502	Protecive Concentration Limit	Protecive Concentration Limit
VOCs					
Vinyl chloride	31	<1.0	<1.0	2	2
1,1-Dichloroethene	93	1.5	<1.0	7	7
cis-1, 2-Dichloroethene	9,300	34	<10	70	70
Trichloroethene	30,000 (D)	180	<1.0	5	5
1,1,2-Trichloroethane	10 (J)	0.16	<10	5	5
Benzene	42	0.22	<1.0	5	5
Tetrachloroethene	270	1.0	<1.0	5	5
TPH (1005)					
C6 to C12	7.3	<5.0	NS	2.9	2.9
C12 to C28	<5.0	<5 0	NS	2.9	2.9
C28 to C35	<5.0	<5.0	NS	NA	NA.
C6 to C35 (total)	7.3	<5 0	NS	NA NA	NA.

Notes: VOC values in ppb (µg/L), TPH values in ppm (mg/L)

Values in Bold Print are above TCEQ Tier 1 C/I PCLs

Only VOC Parameters Detected Above PCLs are Listed

NS - Not sampled for laboratory analysis

D = value was obtained from a diluted sample. First analysis exceeded the laboratory detection limits

J = Value detected is below laboratory reporting limits, and therefor an estimate



TPH is reported in three ranges of petroleum hydrocarbons based on molecular structure. The lighter TPH range of C6 to C12 had detections above TCEQ PCLs and reflects the presence of BTEX range petroleum hydrocarbons. The absence of higher range TPH in groundwater indicates heavier petroleum constituents are not present at boring B-3 and B-4 locations.

# 3.3 Sample Labeling Protocol

Following is an explanation of the 10-character sample identification system utilized for this investigation. The first three letters (DEL) represent the site, Delfasco; the fourth letter, (S or G) indicates soil or groundwater sample type; SB indicates soil boring; the next two digits identify the boring location: 01, 02, 03 or 04; and the last two digits represent the depth of sample (for soil) or sampling event (for groundwater).

# Examples

DELSSB0104 = soil sample from boring B-1 collected at 4 feet below ground surface.

DELGSB0301 = groundwater sample from boring B-3, first sampling event.



### 4.0 CONCLUSIONS AND RECOMMENDATIONS

EnSafe Inc. has performed a Phase II Environmental Site Assessment at the former Delfasco Forge facility at 114 Northeast 28<sup>th</sup> Street in Grand Prairie (Dallas County), Texas. The Phase II was performed to determine if the subsurface has been impacted by historical operations and to provide Delfasco with the necessary documentation to adequately address issues listed in the Pinnacle Sciences Phase I ESA. The Phase II included advancing four DPT borings to collect soil and groundwater samples for laboratory analysis.

Soil samples collected during this investigation indicate there is not a soil contamination issue at boring B-1, B-2 or B-3 locations requiring corrective action in accordance with TCEQ TRRP standards. However, due to the limited extent of soil sampling at the property and the known groundwater impact by chlorinated solvents and petroleum hydrocarbons, other areas of soil contamination may exist on the subject property.

The impact of chlorinated solvents TCE and PCE with their daughter products in groundwater at the property suggests a release has occurred on or adjacent to the subject property. TCE has typically been used by industry for degreasing and cleaning metal parts, tools, etc. PCE is typically used by garment dry-cleaning operations and for other cleaning purposes. It cannot be determined with the information collected in this Phase II whether the presence of the two COCs is related in a degradation aspect since the source is unknown. TCE and PCE have a higher specific gravity than water, thereby sinking in groundwater until reaching an impervious barrier. The Eagle Ford Shale underlying the property may serve this purpose, but cannot be verified without further investigation. The presence of BTEX in groundwater may be a residual contaminant in the TCE or from a separate source. The horizontal flow of groundwater across the site could mobilize and migrate the contaminants offsite. This information can only be determined and or verified by a full nature and extent of contamination investigation.



In conclusion, laboratory results and field investigations indicate that soil and groundwater at the property has been impacted by a release of chlorinated solvents and petroleum hydrocarbons from an undetermined source. Laboratory reports show that COCs detected exceed TCEQ PCLs for this site.

EnSafe recommends the following actions by Delfasco:

- 1. Report the "release" to the TCEQ region office in Fort Worth, Texas (817) 588-5800.
- 2. Enter the subject property into the TCEQ voluntary cleanup program¹ (VCP). Entry is accomplished by completing an application to the VCP (TCEQ form 10241), with a summary Environmental Assessment Report and \$1000 deposit to TCEQ for oversight costs. The VCP application establishes a timeline to accomplish site evaluation and restoration activities.
- 3. TCEQ will accept or reject the VCP application within 45 days of receipt Following VCP acceptance, an affected property assessment will be required to delineate the horizontal and vertical extent of contamination, determine the source of contamination, and determine the eligibility for higher PCLs for contaminants through risk assessment.
- 4. A corrective action plan will be proposed in accordance with the Texas Risk Reduction Program and approved by TCEQ to address the findings of the affected property assessment.
- 5. Upon completion of corrective actions, TCEQ will issue a certificate of closure for the release at the property.

If additional investigations determine contaminants have migrated off-site, Delfasco will be required to notify the affected property owners.



EnSafe is a full-service environmental management and consulting firm, capable of completing the above tasks to satisfy Delfasco and TCEQ. EnSafe will be pleased to provide Delfasco with a scope of work and cost estimate for the above services.

<sup>1</sup>The Texas VCP provides administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas Since all non-responsible parties, including future lenders and landowners, receive protection from liability to the state of Texas for cleanup of sites under the VCP, most of the constraints for completing real estate transactions at those sites are eliminated. As a result, many unused or under used properties may be restored to economically productive or community beneficial use. Also under the VCP, site cleanups follow a streamlined approach to reduce future human and environmental risk to safe levels



# 5.0 REFERENCES

- Geologic Atlas of Texas, Dallas Sheet, The University of Texas at Austin, Bureau of Economic Geology, 1972 (Revised 1988).
- Phase I Environmental Site Assessment, Delfasco Property, Grand Prairie, Texas. Pinnacle Sciences, Inc. April 1, 2002.
- Phase II Environmental Site Assessment Work Plan, Delfasco Property, Grand Prairie, Texas, EnSafe, Inc., July 30, 2002.
- TNRCC Regulatory Guidance, RG-366/TRRP-27: Development of Human Health PCLs for Total Petroleum Hydrocarbon Mixtures, Remediation Section, TNRCC, June 2000.
- TNRCC Tier 1 Protective Concentration Limits, March 2002.

Appendix A
Site Photographs

# Phase II Environmental Site Assessment Delfasco Forge, Grand Prairie, Texas

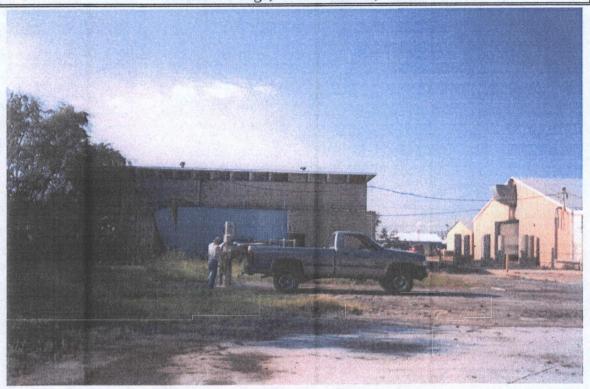


Photo 1: Installation of Boring B-1. View facing south. Machine shop is visible behind Geoprobe.

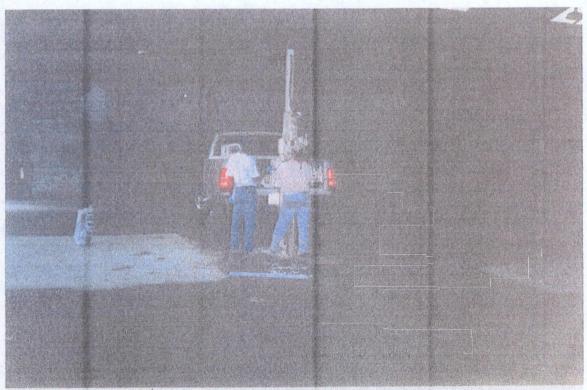


Photo 2: Installation of Boring B-2 inside forge building. View facing south. Former pit is visible to left of Geoprobe, where lighter concrete surface is visible.

# Phase II Environmental Site Assessment Delfasco Forge, Grand Prairie, Texas

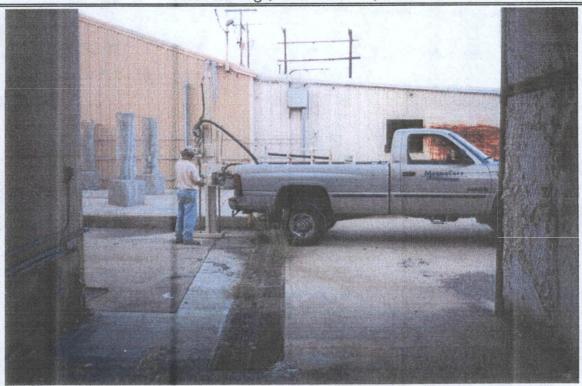


Photo 3: Installation of Boring B-3. View facing west from Machine shop. Stormwater drain is visible at center of photo. Forge building is visible at rear of photo.

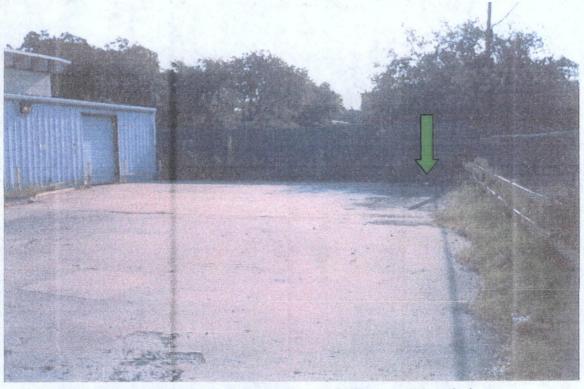


Photo 4: View of Boring B-4 at southeast corner of property. View facing east. Machine shop visible at left side of photo.

Appendix B Soil Boring Logs

	E	N	15	SAF	E		BORING LOG B-1						
						ļ		9/4/02		(Page 1 of 1)			
	Pha		rand P	sco Forge Prairie, Texas mental Site Assess	ment	Drilling Dalling	completed Method Company	Direct Push Rig MagnaCore, Inc 4' DPT Tube	Logged By Boring Depth	E Mears 4 0 feet			
	rna			mber 7540-005	ment		Sampling Method 4' DPT Tube Ensafe Rep E Mears		<del></del>				
	Depth in Feet	PID (ppm)	Samples	SAMPLE ID	Soil Class	GRAPHIC LOG	Sample Cor	ucal Sample Sample	Water Levels  During Dril  After Comp	pletion	Water Levels		
	0-	۵.	l w	<u></u> σ	<u>ν</u>	V 12 -2					>		
	2-	07		DELSSB0104	CL.		Dark brown s	silty CLAY, slight moist,	no odor				
JJECTS/Deffasco Forge/Grand Prarrelborings and wells/B1 BOR	6						TD = 4' Bori	ng plugged with bentoni	te	-			
10-07 2004	10-												

			MΕ				(Page 1 of 1)	
Phas	se II En	rand P	sco Forge rairie, Texas ental Site Assess nber 7540-005	ment	Dolling Dolling	Completed 9/4/02 g Method Direct Push Rig g Company MagnaCore, Inc ling Method 4' DPT Tube e Rep E Mears	Logged By E Mears Boring Depth 23 feet	
Depth in Feet	PID (mdd) OIA	Samples	SAMPLE ID	Soil Class	GRAPHIC LOG	Sample Condition  Analytical Sample  Field Sample	Water Levels  ▼ During Drilling  ∇ After Completion  OGIC DESCRIPTION	
2	84			SC		<b>k</b>	estone gravels, stiff, slightly moist, no odor ght moist, minor chalk nodules (<5%)	
6 1	907		DELS\$B0208			Transition color change to light	prown-brown-orange, silty, sandy CLAY,	
10	74 43 4			CL		Increasing LS/chalk nodules siz	e (globular) Moist, no odor , stiff, moist (not wet), with large globular	
14-	35 9					Light brown-orange SAND with	clay, loose, moist to dry, no odor	
18-	479			sc		boring hole collapsed in at 20-fe	et	
22								

,	E	N	15	SAF	E		BORING	LOG B-3		
								(Page 1 of 1)		
	Pha	se II Env	and P	sco Forge rairie, Texas ental Site Assessi	ment	Drilling Drilling Sampl	Completed 9/4/02 g Method Direct Push Rig g Company MagnaCore, Inc ling Method 4 DPT Tube	Logged By E Mears Bonng Depth · 25 5 feet		
ŀ		Proje	ct Nun	nber 7540-005		Ensafe	Rep E Mears Sample Condition	Water Levels	$\top$	
						(2)	Analytical Sample	■ During Orilling		
	Depth	(mde	sə	SAMPLE ID	lass	GRAPHIC LOG	Field Sample	After Completion	Mater Levels	
	ın Feet	PID (ppm)	Samples	SAMP	Soul Class	GRAP	GEOLOGIC	DESCRIPTION	Water	
	0-		1			0.0.	Concrete		Ţ	
	2-	135		DELSSB0304			Dark brown stilty CLAY, stiff, slight mois petroleum odor	t, minor chalk nodules, strong		
	4-				<b>C</b> L ر		No petroleum odor, dirty organic odor			
	6-	42								
	8-	94					Brown, dark gray, orange, gray silty (mottled coloring) CLAY, stiff, slight moist to dry, oxidation nodules (black-rusty, brittle (10%)			
	10-				CL			<b>V</b>		
	12	239								
83 BOR	14-	1087			CL		Brown-orange silty-sandy CLAY, stiff, mochalk nodules	oist (not wet), with large globular -		
igs and wells	16								-	
2 Prarrie\borio	18-									
Forge\Granc	20-						boring hole collapsed in at 20-feet, tempo groundwater sample	orary well installed to collect	¥	
JJECTS\Deliasco Forge\Grand Pranelboungs and wells\B3 BOR	22			:			g. 23. Grandia Garingia			
·	24-			į						
10-07-200,	† - -									
ģ	26-						TD = 25 5' Boring plugged with bentonit	е		

E	N	15	SAF	E			BORII	NG LOG B-4		
									(Page 1 of 1)	
Phas		rand P	sco Forge Prairie, Texas iental Site Assessi	ment	Drifting Drifting	Completed In Method In Company Ing Method	9/4/02 Direct Push Rig MagnaCore, Inc 4' DPT Tube	Logged By Boring Depth	E Mears 30 feet	
			nber 7540-005	Τ	Ensafe	Rep	E Mears			
Depth in Feet	PID (ppm)	Samples	SAMPLEID	Soil Class	GRAPHIC LOG	1	lytical Sample d Sample	Water Levels  During Driling  After Complet		Water Levels
0-					9.0.	Concrete				
2-	35	*		CL		Dark brown	a stifty CLAY, stiff, dry, i	no odor		
4-					212	Not sample	ed from 4 to 30 feet			
6-										
8-										
						,				
10-										:
12			•							
14-										
''										
16-										
18									-	
20-				ļ						
22-	`									
20					ļ	Groundwate	er encountered at 24 0 (	feet		_
26										
28										
30 🗍		L	l		Į	TD = 30' B	oring plugged with ben	tonite		}
30 -						TD = 30' B	oring plugged with beni	tonite		

Appendix C Laboratory Analytical Data



### 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax: 912 352 0165 • www.stl-inc.com

### STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

	REPORT OF RESULT	?S	DATE/	Page 1
LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLIC		•	SDG#
	DELSSB0208		09-04-02/09:50	
	DELSSB0304		09-04-02/11:40	LMPG06
PARAMETER		46363-1	46363-2	
	by GC/MS (8260)			
Chloromet	hane, ug/kg dw	<b>47</b> U	5 <b>0</b> U	
Bromometh	ane (Methyl bromide), ug/kg dw	470	50 <b>U</b>	
Vinyl chl	oride, ug/kg dw	47U	5 <b>0</b> Ŭ	
hloroeth	ane, ug/kg dw	47U	5 <b>0</b> U	
ethylene	chloride (Dichloromethane), ug/kg dw	230	25U	
Acetone,	ug/kg dw	2300	250U	
Carbon di	sulfide, ug/kg dw	230	25U	
1,1-Dichl	oroethene, ug/kg dw	230	25Մ	
1,1-Dichl	oroethane, ug/kg dw	230	25U	
cis-1,2-D	ichloroethene, ug/kg dw	310	18J	
trans-1,2	-Dichloroethene, ug/kg dw	230	25U	
Chlorofor	m, ug/kg dw	23U	25U	
1,2-Dichl	oroethane, ug/kg dw	230	25U	
2-Butanon	e (MEK), ug/kg dw	· 120U	120U	
1,1,1-Tri	chloroethane, ug/kg dw	2 <b>3</b> U	25U	
Carbon te	trachloride, ug/kg dw	230	25U	
Bromodich	loromethane, ug/kg dw	230	25U	
1,1,2,2-T	etrachloroethane, ug/kg dw	230	25U	
1,2-Dichle	oropropane, ug/kg dw	230	25U	
trans-1,3	-Dichloropropene, ug/kg dw	230	25 <b>U</b>	
Trichloro	ethene, ug/kg dw	200	25	



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.stl-inc.com

### STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02 Reported: 30 SEP 02

Mr Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client

		REPORT	OF RESULTS	5		code.	Page 2
					DATE	E/	
LOG NO SA	MPLE DESCRIPTION , S	OLID OR	SEMISOLID	SAMPLES	TIME	SAMPLED	SDG#
46363-1 DE	LSSB0208				09-04	-02/09:50	LMPG06
46363-2 DE	LSSB0304				09-04	-02/11:40	LMPG06
PARAMETER				46363-1	. 4	6363-2	
Dibromochlor	omethane, ug/kg dw					25U	
1,1,2-Trichl	oroethane, ug/kg dw			230	ī	25U	
Benzene, ug/				230	•	25ช	
cis-1,3-Dich	loropropene, ug/kg d	W		230	•	25U	
romoform, u	g/kg dw			230	•	25U	
-Hexanone,	ug/kg dw			1200	•	120U	
4-Methyl-2-p	entanone (MIBK), ug/l	kg dw		120U		120U	
Tetrachloroe	thene, ug/kg dw			230	•	25U	
Toluene, ug/	kg dw			23U	•	25U	
Chlorobenzen	e, ug/kg dw			230		25U	
Ethylbenzene	, ug/kg dw			230		83	
Styrene, ug/	kg dw			23U		25U	
Xylenes, Tota	al, ug/kg dw			47U		310	
Dilution Fact	tor			5		5	
Prep Date				09.10.02	09	.10.02	
Analysis Date	<b>e</b>			09.10.02	09	.10.02	
Batch ID				, 1M0910		1M0910	



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax: 912 352 0165 • www.stl-inc.com

### STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears

EnSafe, Inc.

Client PO. No.: 7540/REL37

4545 Fuller Dr., Suite 326

Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

Page 3

_		REPORT	Or KESODI.	,	13.3 mm /	rage 3
LOG NO	SAMPLE DESCRIPTION	, SOLID OR	SEMISOLID	SAMPLES	DATE/ TIME SAMPLED	SDG#
46363-1	DELSSB0208				09-04-02/09:5	0 LMPG06
46363-2	DELSSB0304				09-04-02/11:4	0 LMPG06
PARAMETER	•			46363-1	. 46363-2	
Total Petro	oleum Hydrocarbons (					
TPH-C6-C1	2, mg/kg dw			610	J 87	
TPH->C12-0	C28, mg/kg dw			610	640	
TPH->C28-0	235, mg/kg <b>dw</b>			610	160	
'H- Total	l C6-C35, mg/kg dw			61U	890	
arrogate	1-Chlorooctane, %			70 %	67 %	
Surrogate	- o-Terphenyl			70 %	67 %	
Dilution H	Factor			1	. 1	
Prep Date				09.16.02	09.16.02	
Analysis D	Date			09.17.02	09.17.02	
Batch ID				0916W	0916W	
Percent Sol	lids			82	83	



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.stl inc.com

### STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc.

Client PO. No.: 7540/REL37

Cl Project No: 7540-005-02-001-00

4545 Fuller Dr., Suite 326 Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By: Client Code: 15352103

REPORT OF RESULTS Page 4

LOG NO SAMPLE DESCRIPTION , S		DATE/ TIME SAMPLED SDG#
46363-3 DELSSB0104		09-04-02/09:25 LMPG06
PARAMETER	46363-3	
Arsenic (6010), mg/kg dw	3.2	
Dilution Factor	1	
Prep Date	09.09.02	
Analysis Date	09.10.02	
Batch ID	0909A	
rium (6010), mg/kg dw	110	•
Dilution Factor	1	
Prep Date	09.09.02	
Analysis Date	09.10.02	
Batch ID	0909A	
Cadmium (6010), mg/kg dw	1.6	
Dilution Factor	1	
Prep Date	09.09.02	
Analysis Date	09.10.02	
Batch ID	0909A	
Chromium (6010), mg/kg dw	14	
Dilution Factor	1	
Prep Date	09.09.02	
Analysis Date	09.10 02	
Batch ID	0909A	



## 5102 LaRoche Avenue . Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.stl-inc.com

### STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc.

4545 Fuller Dr., Suite 326

Irving, TX 75038

Client PO. No.: 7540/REL37

Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

Page 5

		, SOLID OR SEMISOLID			
46363-3	DELSSB0104			09-04-02/09:25	LMPG06
PARAMETER			46363-3	;	
	, mg/kg dw		23		
Dilution I	Factor		1	•	
Prep Date			09.09.02		
Analysıs I	Date		09.10.02		
Batch ID		•	0909A		
.enium (6	010), mg/kg dw		0.360		
Dilution E	actor		1		
Prep Date			09.09.02		
Analysis D	Date		09.10.02		
Batch ID			0909A		
Silver (601	.0), mg/kg dw		0.160		
Dilution F	actor		1		
Prep Date			09.09.02		
Analysis D	ate		09.10.02		
Batch ID			0909A		
Mercury (74	71)				
Mercury, m	g/kg dw		0.0250		
Dilution F	actor		1		
Prep Date			09.11.02		
Analysis D	ate		09.13.02		
Batch ID			09115		
Percent Sol	ıds		79		



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel. 912 354 7858 • Fax: 912 352 0165 • www.sti-inc.com

### STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears

EnSafe, Inc. 4545 Fuller Dr., Suite 326

Timeles MV 25020

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By: Client

REPORT OF RESULTS	S	DAME!	Page 6
LOG NO SAMPLE DESCRIPTION , LIQUID SAMPLES		DATE/ TIME SAMPLED	SDG#
46363-4 DELGSB0301		09-04-09/12:00	LMPG06
46363-4-DL DELGSB0301		09-04-09/12:00	
46363-5 DELGSB0401		09-04-09/11:30	LMPG06
PARAMETER	46363-4	46363-4-DL	46363-5
Volatiles by GC/MS (8260)			
Chloromethane, ug/l	50U	200U	1.00
Bromomethane (Methyl bromide), ug/l	50 <b>U</b>	2000	1.0U
nyl chloride, ug/l	31J	2000	1.0U
.nloroethane, ug/l	50U	200U	1.0U
Methylene chloride (Dichloromethane), ug/l	250Ŭ	1000U	0.28J
Acetone, ug/l	1200U	5000U	25U
Carbon disulfide, ug/l	50U	200U	1.0U
1,1-Dichloroethene, ug/l	93	130DJ	1.5
1,1-Dichloroethane, ug/l	3 <b>8</b> J	2000	1.00
cis-1,2-Dichloroethene, ug/l	9300		34
trans-1,2-Dichloroethene, ug/l	387	41DJ	1.0U
Chloroform, ug/l	11J	2000	0.25J
1,2-Dichloroethane, ug/l	50T	2000	1.0U
2-Butanone (MEK), ug/l	500U	2000U	100
1,1,1-Trichloroethane, ug/l	5 <b>0</b> U	2000	1.00
Carbon tetrachloride, ug/l	5 <b>0</b> U	2000	1.0U
Bromodichloromethane, ug/l	50 <b>U</b>	200U	1.0U
1,1,2,2-Tetrachloroethane, ug/l	50U	200U	1.0U
1,2-Dichloropropane, ug/l	50 <b>U</b>	2000	1.0U
trans-1,3-Dichloropropene, ug/l	500	2000	1.00



### 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax. 912 352 0165 • www.stl-nc.com

#### STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears

EnSafe, Inc. Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00 4545 Fuller Dr., Suite 326

Irving, TX 75038

Project: DBLFASCO/LMPG06

Sampled By: Client

	RI	EPORT OF RESULTS		Page 7
			DATE/	
LOG NO	SAMPLE DESCRIPTION , LIQU	JID SAMPLES	TIME SAMPLED	SDG#
46363-4	DELGSB0301		09-04-09/12:00	LMPG06
46363-4-DL	DELGSB0301		09-04-09/12:00	LMPG06
	DELGSB0401		09-04-09/11:30	
PARAMETER		46363-	4 46363-4-DL	
Trichloro	ethene, ug/l		E 30000D	180B
Dibromoch	loromethane, ug/l	50	U 200U	1.00
1,1,2-Tri	chloroethane, ug/l	10	J 200U	0.16J
nzene,	ug/l	42	J 200U	0.22J
_s-1,3-D	ichloropropene, ug/l	50	U 200U	1.0U
Bromoform	, ug/l	50	U 200U	1.00
2-Hexanon	e, ug/l	500	Ŭ 2000Ŭ	
4-Methyl-	2-pentanone (MIBK), ug/l	500	V 2000V	100
Tetrachlo	roethene, ug/l	27	0 290D	1.0
Toluene, u	1g/l	50	U 200U	0.49J
Chlorobena	zene, ug/l	50	U 200U	1.0U
Ethylbenze	ene, ug/l	50	U 200U	0.21J
Styrene, w	1g/l	50	U 200U	1.00
Xylenes, 1	Total, ug/l	100		2.0U
Surrogate	- Toluene-d8	96	ક 96 ક	96 ક
Surrogate	- 4-Bromofluorobenzene	84	<b>80 %</b>	86 %
Surrogate	- Dibromofluoromethane	96	ક 96 ક	96 €
Dilution H	Factor	5	0 200	1
Prep Date		09.10.0	2 09.10.02	09.12.02
Analysis D	Date	09.10.0	2 09.10.02	09.12.02
Batch ID		18091	0 1B0910	180912



### 5102 LaRoche Avenue • Savannah, GA 31404 • Tel. 912 354 7858 • Fax. 912 352 0165 • www.stl-inc.com

STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears

EnSafe, Inc. Client PO. No.: 7540/REL37 4545 Fuller Dr., Suite 326 Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By: Client

	REPOR'	r of results		Page 8
			DATE/	
LOG NO	SAMPLE DESCRIPTION , LIQUID :	SAMPLES	TIME SAMPLED	SDG#
46363-4	DELGSB0301	(	9-04-09/12:00	LMPG06
46363-4-DL	DELGSB0301	(	9-04-09/12:00	LMPG06
46363-5	DELGSB0401		09-04-09/11:30	LMPG06
PARAMETER		46363-4	46363-4-DL	46363-5
Total Petro	oleum Hydrocarbons (TNRCC-1005		***	
TPH-C6-C12	2, mg/l	7.3		5.0U
TPH->C12-0	228, mg/l	5.0U		5.0U
H->C28-C	235, mg/l	5.00		5.0U
.⁄H- Total	L C6-C35, mg/l	8.0		5.0U
Surrogate	1-Chlorooctane, %	58 %		73 %
Surrogate	- o-Terphenyl	58 %		73 %
Dilution F	Factor	1		1
Prep Date		09.11.02	(	9 11.02
Analysis D	Date	09.17.02	(	9.17.02
Batch ID		0 <b>911</b> U		0 <b>911</b> U



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.stl-inc.com

#### STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02

Reported: 30 SEP 02

Mr Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client Code · 15352103

PEDODT OF PEGULTS

Page 9'

	REPORT C	F RESULTS		Page 9
-			DATE/	
	SAMPLE DESCRIPTION , LIQUID SAM		TIME SAMPLED	
46363-6	DELT090502		09-05-02/12.00	LMPG06
PARAMETER		46363-6	5	
	by GC/MS (8260)			
	hane, ug/l	1.00	J	
Bromometh	nane (Methyl bromide), ug/l	1.00	J	
	.oride, ug/l	1.00	J	
Chloroeth	ane, ug/l	1.00	Ţ	
thylene	chloride (Dichloromethane), ug/	1 5.00	ſ	
_etone,	ug/l	250	ſ	
Carbon di	sulfide, ug/l	1.00	Ī	
1,1-Dichl	oroethene, ug/l	1.00	Ī	
1,1-Dichl	oroethane, ug/l	1.00	•	
c1s-1,2-D	ichloroethene, ug/l	1.00	r	
	-Dichloroethene, ug/l	1.00	İ	
Chlorofor	m, ug/l	1.00	Ī	
	oroethane, ug/l	1.00	i	
2-Butanon	e (MEK), ug/l	100	Ī	
	chloroethane, ug/l	1.00	i	
	trachloride, ug/l	1.00		
Bromodich	loromethane, ug/l	1.00	•	
	etrachloroethane, ug/l	1.00	•	
	oropropane, ug/l	1.00		
=	-Dichloropropene, ug/l	1.00		
	ethene, ug/l	1.00		
Dibromoch.	loromethane, ug/l	1.00		



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax. 912 352 0165 • www.stl-inc.com

## STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038 Reported: 30 SEP 02

Client PO. No.: 7540/REL37

Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

•		RECRI OF RESOLES	DATE/
	SAMPLE DESCRIPTION , L	IQUID SAMPLES	TIME SAMPLED SDG#
46363-6	DELT090502		09-05-02/12:00 LMPG06
PARAMETER		46363-6	3
	chloroethane, ug/l	1.00	
Benzene,	ug/l	1.00	ı
cis-1,3-E	Ochloropropene, ug/l	1.00	1
Bromoform	ı, ug/l	1.00	3
2-Hexanon	ne, ug/l	100	ı
-Methyl-	2-pentanone (MIBK), ug/	100	ī
etrachlo	roethene, ug/l	1.00	ī
Toluene,	ug/l	1.00	Ī
Chloroben	zene, ug/l	1.00	, and the second se
Ethylbenz	ene, ug/l	1.00	Ţ
Styrene,	ug/l	1.00	1
Xylenes,	Total, ug/l	2.00	ı
Surrogate	- Toluene-d8	94 %	•
Surrogate	- 4-Bromofluorobenzene	82 %	•
Surrogate	- Dibromofluoromethane	96 %	•
Dilution	Factor	1	
Prep Date		09.10.02	
Analysis	Date	09.10.02	
Batch ID		180910	



# 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax: 912 352 0165 • www.stl-inc.com

## STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Client PO. No.: 7540/REL37

Sampled By: Client Code: 15352103

REPORT OF RESULTS Page 11

በልጥድ /

			D.	ATE/	
LOG NO	SAMPLE DESCRIPTION , QC REPORT	FOR SOLID/S	EMISOLID TI	ME SAMPLED	SDG#
46363-7 46363-8 46363-9 46363-10	Method Detection Limit (MDL) Method Blank Lab Control Standard % Recovery LCS Accuracy Control Limit (%R)				LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER			46363-8	46363-9	46363-10
Volatiles h	oy GC/MS (8260)				
Chlorometh	nane, ug/kg dw	1.3	100		
omometha	ane (Methyl bromide), ug/kg dw	3.6	10U		
nyl chlo	oride, ug/kg dw	1.5	100	~	
Chloroetha	ane, ug/kg dw	2.2	100		
Methylene	chloride (Dichloromethane), ug/1	kg dw 1.4	5.0U	** **	~
Acetone, u	ıg/kg dw	3.6	50 <b>U</b>	•	
Carbon dis	sulfide, ug/kg dw	2.2	5.0U		
1,1-Dichlo	proethene, ug/kg dw	2.2	5.0 <b>U</b>	68 %	40-164 %
1,1-Dichlo	proethane, ug/kg dw	-1.6	5.0U		
cis-1,2-Di	chloroethene, ug/kg dw	1.7	5.0U	** == ==	
trans-1,2-	Dichloroethene, ug/kg dw	1.9	5.0U	~	
Chloroform	n, ug/kg dw	1.7	5.0U	~	
1,2-Dichlo	proethane, ug/kg dw	1.2	5.0U		~
2-Butanone	e (MEK), ug/kg dw	3.3	25 <b>U</b>	~	
1,1,1-Tric	chloroethane, ug/kg dw	2.1	5.0U		
Carbon tet	rachloride, ug/kg dw	1.9	5.0U	~ ~ ~	
Bromodichl	oromethane, ug/kg dw	0.88	5.0 <b>ʊ</b>		
1,1,2,2-Te	trachloroethane, ug/kg dw	1.0	5.0U		
1,2-Dichlo	propropane, ug/kg dw	1.4	5.0U	~ ~ ~	



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax: 912 352 0165 • www.stl-inc.com

#### STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Client PO. No.: 7540/REL37

Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By Client

Code: 15352103

REPORT OF RESULTS

- <del>-</del>			DATE/	
LOG NO SAMPLE DESCRIPTION , QC REPORT	FOR SOLID/	SEMISOLID 7	CIME SAMPLED	SDG#
46363-7 Method Detection Limit (MDL) 46363-8 Method Blank 46363-9 Lab Control Standard % Recovery 46363-10 LCS Accuracy Control Limit (%R)				LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER	46363-7	46363-8	46363-9	46363-10
trans-1,3-Dichloropropene, ug/kg dw Trichloroethene, ug/kg dw ibromochloromethane, ug/kg dw ,1,2-Trichloroethane, ug/kg dw Benzene, ug/kg dw cis-1,3-Dichloropropene, ug/kg dw Bromoform, ug/kg dw 2-Hexanone, ug/kg dw 4-Methyl-2-pentanone (MIBK), ug/kg dw Tetrachloroethene, ug/kg dw Toluene, ug/kg dw Chlorobenzene, ug/kg dw Ethylbenzene, ug/kg dw	2 1 2.1 0 84 0 96 1.7 0 99 0.82 4.8 4.9 3.0 1.8 1.3 2.0	5.0U 5.0U 5.0U 5.0U 5.0U 5.0U 25U 25U 5.0U 5.0U 5.0U	   82 %	51-146 % 49-142 % 38-158 % 66-135 %
Styrene, ug/kg dw  Kylenes, Total, ug/kg dw  Dilution Factor  Prep Date  Analysis Date  Batch ID	1.8	5.00 10U 1 09.10.02 09.10.02 1M0910		



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.stl-inc.com

## STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears

EnSafe, Inc.

Client PO. No.: 7540/REL37

4545 Fuller Dr., Suite 326

Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

				DATE/	<b>J</b>
LOG NO	SAMPLE DESCRIPTION , QC REPORT F	OR SOLID/	SEMISOLID '	TIME SAMPLED	SDG#
	Method Detection Limit (MDL) Method Blank Lab Control Standard % Recovery LCS Accuracy Control Limit (%R)				LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER		46363-7	46363-8	46363-9	46363-10
Total Petro	oleum Hydrocarbons (TNRCC-1005)				
TPH-C6-C1:	2, mg/kg dw	25	50U	96 %	75-125 %
'H->C12-6	C28, mg/kg dw	25	50U	92 %	75-125 %
2H->C28-0	C35, mg/kg dw	25	50U	92 %	75-125 %
TPH- Total	l C6-C35, mg/kg dw	25	50 <b>೮</b>	94 %	75-125 %
Surrogate	1-Chlorooctane, %		80 %	76 %	75-125 %
_	- o-Terphenyl		80 %	76 %	75-125 %
Dilution 1	Factor		1	1	·
Prep Date			09.16.02	09.16.02	
Analysis I	Date		09.17.02	09.17.02	
Batch ID			0916W	0916W	



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.stl inc.com

## STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears
EnSafe, Inc.
4545 Fuller Dr

Client PO. No.: 7540/REL37

4545 Fuller Dr., Suite 326

Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

		REPORT O	F RESULTS		DATE/	Page 14
	SAMPLE DESCRIPTION ,				TIME SAMPLED	SDG#
46363-11						LMPG06
46363-12	Method Blank					LMPG06
46363-13	Lab Control Standard	% Recovery				LMPG06
46363-14	LCS Accuracy Control	Limit (%R)				LMPG06
46363-19	Method Blank					LMPG06
PARAMETER		46363-11	46363-12		46363-14	
Total Petr						
Hydrocar	bons (TNRCC-1005)					
PH-C6-C1	2, mg/1	2.5	5.0U	76 %	75-125 %	5.0U
TPH->C12-	C28, mg/l	2.5	5 OU	76 %	75-125 %	5.0U
TPH~>C28-	C35, mg/l	2.5	5.0U	76 %	75-125 %	5.0U
TPH~ Tota	l C6-C35, mg/l	2 5	5.0 <b>U</b>	75 %	75-125 %	5.0U
Surrogate	1-Chlorooctane, mg/l		67 %	54 %	75-125 %	64 %X
Surrogate	- o-Terphenyl		64 %	54 %	75-125 %	
Dilution	Factor		1	1		1
Prep Date		~ ~ ~	09.11.02	09.11.02		09.26.02
Analysis	Date		09.17.02	09.17.02		09.26.02
Batch ID			09110	09110		0926V



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel· 912 354 7858 • Fax: 912 352 0165 • www.stl-inc.com

## STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears

EnSafe, Inc.

4545 Fuller Dr., Suite 326

Irving, TX 75038

Project: DELFASCO/LMPG06

Client PO. No.: 7540/REL37

Cl Project No: 7540-005-02-001-00

DATE/

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION ,	QC REPORT	FOR LIQUID	SAMPLES	TIME SAMPLED	SDG#
46363-11 46363-12 46363-13 46363-14 46363-19	Method Detection Lim Method Blank Lab Control Standard LCS Accuracy Control Method Blank	% Recovery				LMPG06 LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER					46363-14	
	by GC/MS (8260)					
	nane, ug/l	0.30	1.00			1.00
	ine (Methyl	0.44	1 OU			1.00
bromide),	ug/l					
Vinyl chlo	oride, ug/l	0.28	1 OU			1 00
Chloroetha	ine, ug/l	0.22	1.00			1.00
Methylene	chloride	0.25	5.0V			5.0U
(Dichlore	omethane), ug/l					
Acetone, u	1g/1	12	25บั			25U
Carbon dis	sulfide, ug/l	0.35	1 OU			1.00
1,1-Dichlo	roethene, ug/l	0.19	1.00	86 ક	46-147 %	1.00
1,1-Dichlo	roethane, ug/l	0.38	1.00			1.00
cis-1,2-D1	chloroethene, ug/l	0.51	1.00			1.0U
trans-1,2-	Dichloroethene, ug/l	0.19	1.0U			1.0U
Chloroform	, ug/l	0.14	1.00			1.00
1,2-Dichlo	roethane, ug/l	0.46	1 OU			1.00
2-Butanone	(MEK), ug/l	5.5	100			100
1,1,1-Tric	hloroethane, ug/l	0 14	1.00			1.00
Carbon tet	rachloride, ug/l	0.090	1.00			1.00



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax. 912 352 0165 • www.stl-nc.com

## STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Project DELFASCO/LMPG06

Sampled By: Client Code: 15352103

REPORT OF RESULTS Page 16

	REPORT (	OF RESULIS		DATE/	Page 16
LOG NO SAMPLE DESCRIPTION , (	QC REPORT	FOR LIQUID	SAMPLES	TIME SAMPLED	SDG#
46363-11 Method Detection Limit	t (MDL)				LMPG06
46363-12 Method Blank					LMPG06
46363-13 Lab Control Standard	Recovery	,			LMPG06
46363-14 LCS Accuracy Control I	Limit (%R)	1			LMPG06
46363-19 Method Blank					LMPG06
PARAMETER	16363-11	46363-12	46363-13	46363-14	46363-19
Bromodichloromethane, ug/l	0.14	1.00			1.00
1,2,2-Tetrachloroethane, ug/l	0.13	1.0U			1.00
2-Dichloropropane, ug/l	0.090	1.00			1.00
trans-1,3-Dichloropropene, ug/l	0.49	1.00			1.0U
Trichloroethene, ug/l	0.17	1.00	84 %	56-143 %	0.20J
Dibromochloromethane, ug/l	0.17	1.0U			1.0U
1,1,2-Trichloroethane, ug/l	0.15	1.0U			1.00
Benzene, ug/l	0.10	1.0U	92 %	62-135 %	1.00
cis-1,3-Dichloropropene, ug/l	0.17	1.0U			1.00
Bromoform, ug/l	0.24	1.00			1.00
2-Hexanone, ug/l	1.5	100			100
4-Methyl-2-pentanone (MIBK), ug/		10U			10U
Tetrachloroethene, ug/l	0.38	1.00			1.00
Toluene, ug/l	0.28	1.0U	90 %		1.0U
Chlorobenzene, ug/l	0 090	1.00	92 ક	72-127 %	1.00
Ethylbenzene, ug/l	0.11	1.00			1.0U
Styrene, ug/l	0.16	1.00			1.0U
Xylenes, Total, ug/l	0.31	2.00			2.00
Surrogate - Toluene-d8		96 %	96 %	77-122 %	96 %



# 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax. 912 352 0165 • www.stl-inc.com

## STL Savannah

LOG NO: S2-46363

Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc.

Client PO. No.: 7540/REL37

4545 Fuller Dr., Suite 326

Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By Client

Code: 15352103

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES TIME SAMPLED SDG#  -46363-11 Method Detection Limit (MDL)  46363-12 Method Blank  Lab Control Standard % Recovery  LMPG06	
46363-12 Method Blank LMPG06	
46363-13 Lab Control Standard % Recovery LMPG06	
46363-14 LCS Accuracy Control Limit (%R) LMPG06	
46363-19 Method Blank LMPG06	
PARAMETER 46363-11 46363-12 46363-13 46363-14 46363-19	. ~ }
Surrogate - 4-Bromofluorobenzene 84 % 84 % 74-126 % 88 %	<b>5</b>
rrogate - Dibromofluoromethane 92 % 96 % 70-130 % 96 %	5
ilution Factor 1 1 1	L
Prep Date 09.10.02 09.10.02 09.12.02	2
Analysis Date 09.10 02 09.10.02 09.12.02	?
Batch ID 180910 180910 180912	2



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax. 912 352 0165 • www.sthnc.com

STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc.

Client PO. No.: 7540/REL37

4545 Fuller Dr., Suite 326

Cl Project No: 7540-005-02-001-00

Irving, TX 75038

Project: DELFASCO/LMPG06

Sampled By Client

Code: 15352103

REPORT OF RESULTS

				DATE	Ξ/	
	SAMPLE DESCRIPTION , QC REPORT					
46363-20	Lab Control Standard % Recovery					LMPG06
PARAMETER		4	46363-20	)		
	coleum Hydrocarbons (TNRCC-1005)					
TPH-C6-C1	2		85 %	i		
TPH->C12-	C28		88 %	•		
TPH->C28-	C35		88 %	5		
TPH- Tota	1 C6-C35		84 %	;		
rrogate	1-Chlorooctane		67 %X	:		
rrogate	- o-Terphenyl		54 %X			
Dilution	Factor		1			
Prep Date		0	09.26.02	1		
Analysis	Date	0	09.26.02	:		
Batch ID			092 <b>6</b> V	,		
Volatiles :	by GC/MS (8260)					
1,1-Dichle	oroethene		94 ક			
Trichloro	ethene		100 %			
Benzene			98 %			
Toluene			96 %			
Chloroben:	zene		96 %			
-	- Toluene-d8		98 %			
	- 4-Bromofluorobenzene		94 %			
Surrogate	- Dibromofluoromethane		96 ક			
Dilution I	Factor		1			
Prep Date		0	9.12.02			
Analysis I	Date	0:	9.12.02			
Batch ID			1B0912			



# 5102 LaRoche Avenue • Savannah, GA 31404 • Tel: 912 354 7858 • Fax. 912 352 0165 • www.stl-inc.com

STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS Page 19

					DATE/	<b>-</b>
LOG NO SAMPLE	DESCRIPTION ,				TIME SAMPLED	
46363-15 Instru 46363-16 Method 46363-17 Lab Co 46363-18 LCS Ac	Blank ntrol Standard	% Recovery				LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER				46363-16	46363-17	46363-18
Arsenic (6010), modern Dilution Factor ep Date alysis Date Batch ID			0.50	1 09 09.02	92 % 1 09.09.02 09.10.02 0909A	
Barium (6010), mg, Dilution Factor Prep Date Analysis Date Batch ID	/kg dw			1 09.09.02	09.09.02 09.10.02	
Cadmium (6010), mo Dilution Factor Prep Date Analysis Date Batch ID	g/kg dw			1 09.09.02	09 09.02 09.10.02	
Chromium (6010), n Dilution Factor Prep Date Analysis Date Batch ID	ng/kg dw		0.090	1 09.09.02 09.10.02	100 % 1 09.09.02 09.10.02 0909A	



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel· 912 354 7858 • Fax. 912 352 0165 • www.stl-inc.com

## STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02

Reported: 30 SEP 02

Mr. Ed Mears
EnSafe, Inc.
4545 Fuller Dr., Suite 326
Irving, TX 75038

Client PO. No.: 7540/REL37 Cl Project No: 7540-005-02-001-00

Project. DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS Page 20

•					DATE/	_
LOG NO	SAMPLE DESCRIPTION ,	QC REPORT B	FOR SOLID/	SEMISOLID	TIME SAMPLED	SDG#
46363-16 46363-17	Instrument Detection Method Blank Lab Control Standard LCS Accuracy Control	% Recovery				LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER				46363-16	46363-17	46363-18
Lead (6010 Dilution ) rep Date lalysis ) Batch ID	), mg/kg dw Factor		0.21	1 09.09.02	98 % 1 09.09.02 09.10.02 0909A	
Selenium (6 Dilution ) Prep Date Analysis I Batch ID				1 09.09.02	09.09.02 09.10.02	
Silver (60) Dilution E Prep Date Analysis E Batch ID				1 09.09.02	1 09.09.02 09.10.02	75-125 %   



## 5102 LaRoche Avenue • Savannah, GA 31404 • Tel 912 354 7858 • Fax 912 352 0165 • www.sti-inc.com

#### STL Savannah

LOG NO: S2-46363 Received: 06 SEP 02 Reported: 30 SEP 02

Mr. Ed Mears EnSafe, Inc. 4545 Fuller Dr., Suite 326 Irving, TX 75038 Reported: 30 SEP 02
Client PO. No.: 7540/REL37

Cl Project No: 7540-005-02-001-00

Project: DELFASCO/LMPG06

Sampled By: Client

Code: 15352103

REPORT OF RESULTS

Page 21

DATE/

LOG NO	SAMPLE DESCRIPTION , QC R	EPORT FOR SOLID/	SEMISOLID T	IME SAMPLED	SDG#
46363-16 46363-17	Instrument Detection Limi Method Blank Lab Control Standard % Re LCS Accuracy Control Limi	covery			LMPG06 LMPG06 LMPG06 LMPG06
PARAMETER		46363-15	46363-16	46363-17	46363-18
Mercury (74 Mercury, m lution F ep Date Analysis D Batch ID	g/kg dw actor	0.0050	0.020U 1 09.11.02 09.13.02 0911S	112 % 1 09.11.02 09.13.02 0911S	80-120 %

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III.

- U = Indicates compound was analyzed for but not detected.
- J = The flag "J" indicates the presence of a compound that meets the identification criteria, but the result is less than the sample RL and greater than the MDL.
- E = Estimated value. Analyte abundance exceeded the instrument calibration range.
- D = Result is from a secondary dilution.
- B (Organic) = This flag is used when the analyte is found in the associated method blank as well as in the sample.

- Mda & Woefe Linda A. Wolfe, Project Manager

# **CHAIN OF CUSTODY**

LMP606



CH

HAIN OF CUL. JDY RECORD	PAGE OF	5-02-001-0
	COC NO. 7540  PO NO. 37	

1702074715, 00000112, 0								LAB NAME: STL SAVANNAH									<del></del>		
CUENT DELFAS	CO .		PROJEC	T MANAGER EO	ME	ARS	•				ANAL	YSIS R	EQUIF	RED /	7	7	7	777	
LOCATION GRAND SAMPLERS: (SIGNATURE)	FRAIRI	E, XX	TELE/F/	AX,NO. 9722-29	11-32	27/04	25			/	81/	80/1	/	_/	//	//	//	///	
SAMPLERS: (SIGNATURE)	Emme	m		100 MEARS	······		-		J. N. P.			Y 0	" /	/ /	/ /	//	/ ,	///	
			·							04		<del>)</del> /	/,	/,	/,	/		REMAI	RKS
FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRE TEMP.	SERVATION CHEMICAL	Z		3/5		914	1100				_		<u>/</u>	
DELSSBO104	9/4/02	0925	5	250 ML PUSTE	40		1		X									MEJALS O	NET
PELSSBOZOB			5	4/02 Amosa	40		2	X		X				<u> </u>			]		
DELSSB0304	9/4/02	1140	5	You AMBER	40	<u> </u>	2	X		X									
PELSSBOY04-														_		$\Rightarrow$		NOT SAM	RED
DELG SB0301	915/02	1.200	W	40nl VOAS	40	HCR	6	Х		X								WATEL	
DELGSBOYOL	4/5/02	1130	W	40 ML VOAS	40	HCL.	6	X		$\chi$								WATER	
DELT090502	9/5/02	1200	in	40 MC VOAS	40	HCL	3	X										THE BLE	LNK
											1								
															$\rightarrow$				
										/									
11				h										\					
RELINQUISHER ELISABLE	DATE RECEIVER  DATE  G. 6. D. RELINQUISHER  DATE						DATE RECEIVER-										DATE		
PRINTED: CADACO I. MEA	THE PRINTED						TIME PRINTED										ПМЕ		
COMPANY. EYSAFE	404X	COMPANY	STL-SOVANNAH 915 COMPANY.  COMMENTS: STANDARD, 21-DAY										MPANY						
SUIDVENT NO.		······································		ł	DNO	•	,			_7	WN	AC	DVV	3O	Dw	2		· · · · · · · · · · · · · · · · · · ·	
SEND RESULTS TO: E.MEARS, 4545 FILLER ON 52-46363  HBZG, FIVING TX, 75038																			
- VIETO - VIETO	1/				- /5 -														
		ΔΝΔΙ	ALICAL DA	TA RÉCEIVEN BY (INITIAL	I C /IYAT														